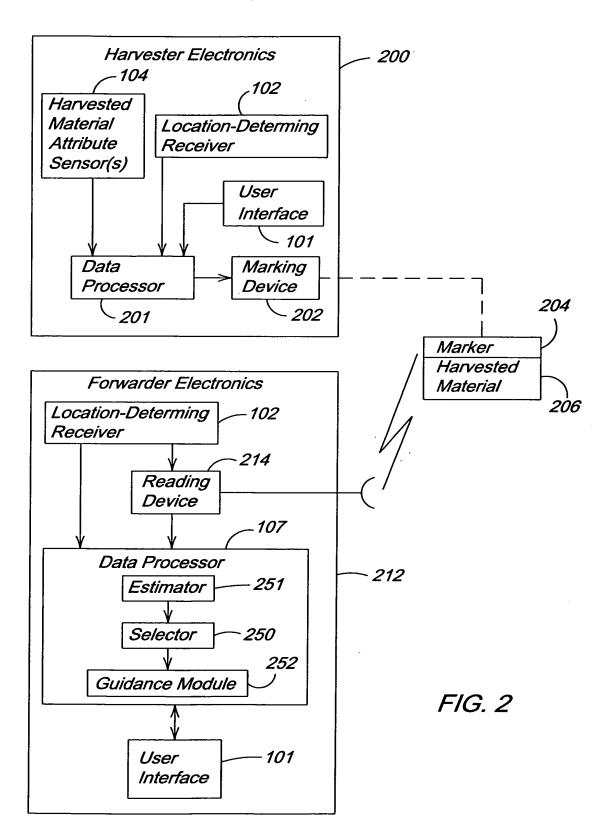


# TITLE: LOCATING HARVESTED MATERIAL WITHIN A WORK AREA INVENTOR: Noel Wayne Anderson DOCKET #: 16111 /deb, mah

#### 2/9



### TITLE: LOCATING HARVESTED MATERIAL WITHIN A WORK AREA

INVENTOR: Noel Wayne Anderson DOCKET #: 16111 /deb. mah

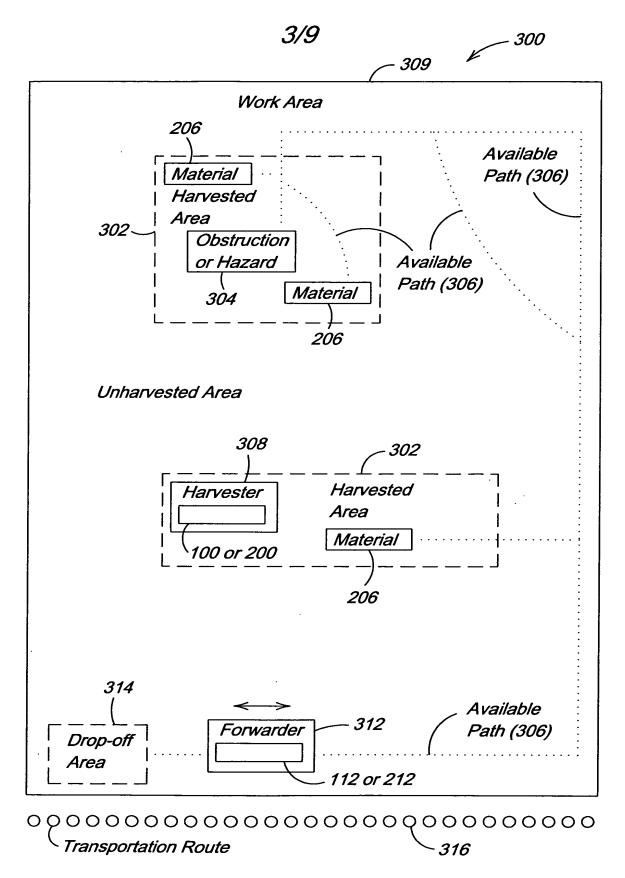


FIG. 3

# TITLE: LOCATING HARVESTED MATERIAL WITHIN A WORK AREA INVENTOR: Noel Wayne Anderson DOCKET #: 16111 /deb, mah

#### 4/9

-S100

COLLECT MATERIAL DATA INCLUDING AT LEAST ONE OF HARVESTER LOCATION DATA, MATERIAL LOCATION DATA, MATERIAL IDENTIFIER, MATERIAL ATTRIBUTE, AND MATERIAL ATTRIBUTE VALUE ASSOCIATED WITH THE HARVESTED MATERIAL (E.G., WOOD).

-*S102* 

OBTAIN BACKGROUND DATA FOR THE WORK AREA, WHERE THE BACKGROUND DATA COMPRISES ANY OF THE FOLLOWING: OBSTRUCTION DATA, HAZARD DATA, GROUND COVER DATA, TOPOGRAPHICAL DATA, ESTABLISHED TRANSPORTATION PATH DATA, AND VEGETATION DATA FOR AT LEAST PART OF THE WORK AREA.

-*S106* 

STORE THE COLLECTED MATERIAL DATA AND THE OBTAINED BACKGROUND DATA.

-*S108* 

MAKE AVAILABLE OR TRANSMIT THE STORED DATA TO A FORWARDER VIA AN ELECTROMAGNETIC (E.G., A RADIO FREQUENCY) SIGNAL.

#### FIG. 4

*-S100* 

COLLECT MATERIAL DATA INCLUDING AT LEAST ONE OF HARVESTER LOCATION DATA, MATERIAL LOCATION DATA, MATERIAL IDENTIFIER, MATERIAL ATTRIBUTE, AND MATERIAL ATTRIBUTE VALUE ASSOCIATED WITH THE HARVESTED MATERIAL (E.G., WOOD).

**-S110** 

MARK THE HARVESTED MATERIAL WITH A REFERENCE MARKER FOR REFERENCING THE COLLECTED DATA.

### TITLE: LOCATING HARVESTED MATERIAL WITHIN A WORK AREA INVENTOR: Noel Wayne Anderson DOCKET #: 16111 /deb, mah

#### 5/9

RECEIVE STORED DATA VIA AN ELECTROMAGNETIC SIGNAL (E.G., A RADIO FREQUENCY SIGNAL).

S202

DETERMINE A FORWARDER LOCATION OF A FORWARDER IN THE WORK AREA.

S204

OBTAIN BACKGROUND DATA FOR THE WORK AREA, WHERE THE BACKGROUND DATA COMPRISES ANY OF THE FOLLOWING: OBSTRUCTION DATA, HAZARD DATA, GROUND COVER DATA, TOPOGRAPHICAL DATA, ESTABLISHED TRANSPORTATION PATH DATA, AND VEGETATION DATA FOR AT LEAST PART OF THE WORK AREA.

-*S208* 

IDENTIFY A PREFERENTIAL PATH PLAN WITH AN EFFICIENT ECONOMIC COST BETWEEN THE FORWARDER LOCATION AND THE MATERIAL LOCATION AND BETWEEN THE MATERIAL LOCATION AND A DROP-OFF DESTINATION BASED ON THE MATERIAL DATA, THE BACKGROUND DATA, AND COST FACTOR DATA. THE COST FACTOR DATA INCLUDES ONE OR MORE OF THE FOLLOWING: ESTIMATED TRAVEL TIME BETWEEN A STARTING POINT AND DESTINATION POINT OF A CANDIDATE PATH PLAN OR SEGMENT, EMPIRICAL TRAVEL TIME BETWEEN A STARTING POINT AND A DESTINATION POINT OF A CANDIDATE PATH PLAN OR SEGMENT, A TRAVEL DISTANCE BETWEEN A STARTING POINT AND A DESTINATION POINT OF A CANDIDATE PATH PLAN OR SEGMENT, AND A TRAVEL DISTANCE BETWEEN A MATERIAL LOCATION AND ONE OR MORE CORRESPONDING DROP-OFF LOCATIONS.

-*S210* 

PRESENT THE PREFERENTIAL PATH PLAN TO THE OPERATER.

### TITLE: LOCATING HARVESTED MATERIAL WITHIN A WORK AREA INVENTOR: Noel Wayne Anderson DOCKET #: 16111 /deb. mah

6/9

	_S201
READ THE REFERENCE MARKER FOR REFERENCING COLLECTED DATA.	
	S202
DETERMINE A FORWARDER LOCATION OF A FORWARDER IN THE WORK AREA.	
•	S204
OBTAIN BACKGROUND DATA FOI BACKGROUND DATA COMPRISES OBSTRUCTION DATA, HAZARD DA TOPOGRAPHICAL DATA, ESTABLE DATA, AND VEGETATION DATA FO WORK AREA.	S ANY OF THE FOLLOWING: ATA, GROUND COVER DATA, ISHED TRANSPORTATION PATH

*-- S208* 

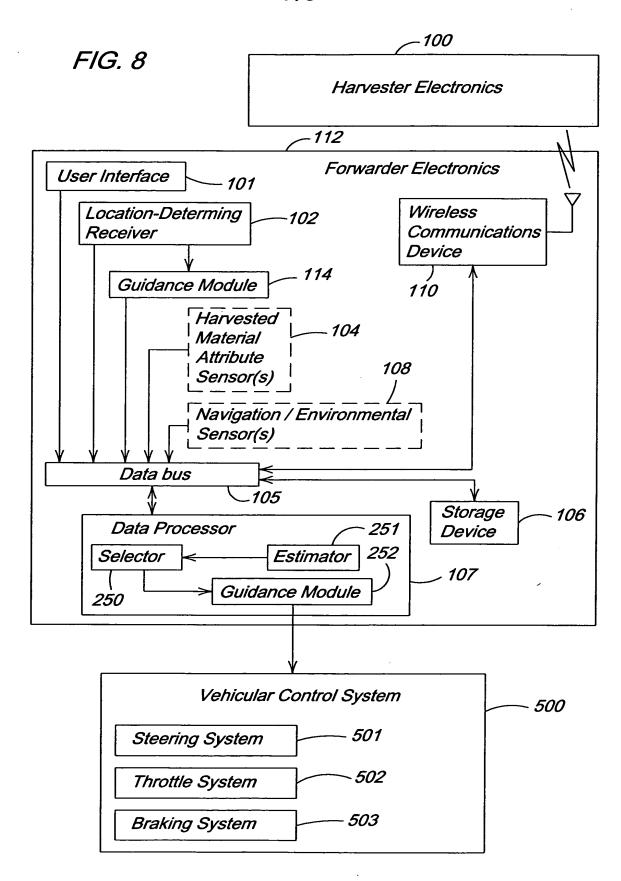
IDENTIFY A PREFERENTIAL PATH PLAN WITH AN EFFICIENT ECONOMIC COST BETWEEN THE FORWARDER LOCATION AND THE MATERIAL LOCATION AND BETWEEN THE MATERIAL LOCATION AND A DROP-OFF DESTINATION BASED ON THE MATERIAL DATA, THE BACKGROUND DATA, AND COST FACTOR DATA. THE COST FACTOR DATA INCLUDES ONE OR MORE OF THE FOLLOWING: ESTIMATED TRAVEL TIME BETWEEN A STARTING POINT AND DESTINATION POINT OF A CANDIDATE PATH PLAN OR SEGMENT, EMPIRICAL TRAVEL TIME BETWEEN A STARTING POINT AND A DESTINATION POINT OF A CANDIDATE PATH PLAN OR SEGMENT, A TRAVEL DISTANCE BETWEEN A STARTING POINT AND A DESTINATION POINT OF A CANDIDATE PATH PLAN OR SEGMENT, AND A TRAVEL DISTANCE BETWEEN A MATERIAL LOCATION AND ONE OR MORE CORRESPONDING DROP-OFF LOCATIONS.

-S210

PRESENT THE PREFERENTIAL PATH PLAN TO THE OPERATER.

### TITLE: LOCATING HARVESTED MATERIAL WITHIN A WORK AREA INVENTOR: Noel Wayne Anderson DOCKET #: 16111 /deb, mah

7/9



# TITLE: LOCATING HARVESTED MATERIAL WITHIN A WORK AREA INVENTOR: Noei Wayne Anderson DOCKET \*: 16111 /deb, mah

#### 8/9

RECEIVE STORED DATA VIA AN ELECTROMAGNETIC SIGNAL (E.G., A RADIO FREQUENCY SIGNAL).

S202

DETERMINE A FORWARDER LOCATION OF A FORWARDER IN THE WORK AREA.

OBTAIN BACKGROUND DATA FOR THE WORK AREA, WHERE THE BACKGROUND DATA COMPRISES ANY OF THE FOLLOWING: OBSTRUCTION DATA, HAZARD DATA, GROUND COVER DATA, TOPOGRAPHICAL DATA, ESTABLISHED TRANSPORTATION PATH DATA, AND VEGETATION DATA FOR AT LEAST PART OF THE WORK AREA.

-*S208* 

-S204

IDENTIFY A PREFERENTIAL PATH PLAN WITH AN EFFICIENT ECONOMIC COST BETWEEN THE FORWARDER LOCATION AND THE MATERIAL LOCATION AND BETWEEN THE MATERIAL LOCATION AND A DROP-OFF DESTINATION BASED ON THE MATERIAL DATA, THE BACKGROUND DATA, AND COST FACTOR DATA. THE COST FACTOR DATA INCLUDES ONE OR MORE OF THE FOLLOWING: ESTIMATED TRAVEL TIME BETWEEN A STARTING POINT AND DESTINATION POINT OF A CANDIDATE PATH PLAN OR SEGMENT, EMPIRICAL TRAVEL TIME BETWEEN A STARTING POINT AND A DESTINATION POINT OF A CANDIDATE PATH PLAN OR SEGMENT, A TRAVEL DISTANCE BETWEEN A STARTING POINT AND A DESTINATION POINT OF A CANDIDATE PATH PLAN OR SEGMENT, AND A TRAVEL DISTANCE BETWEEN A MATERIAL LOCATION AND ONE OR MORE CORRESPONDING DROP-OFF LOCATIONS.

-*S211* 

PROVIDE COMMANDS TO TRACK OR EXECUTE THE PATH PLAN TO AT LEAST ONE OF A STEERING SYSTEM, A THROTTLE SYSTEM, AND A BRAKING SYSTEM.

# TITLE: LOCATING HARVESTED MATERIAL WITHIN A WORK AREA INVENTOR: Noel Wayne Anderson DOCKET #: 16111 /deb. mah

9/9

\_S201

READ THE REFERENCE MARKER FOR REFERENCING COLLECTED DATA.

-*S202* 

DETERMINE A FORWARDER LOCATION OF A FORWARDER IN THE WORK AREA.

-*S204* 

OBTAIN BACKGROUND DATA FOR THE WORK AREA, WHERE THE BACKGROUND DATA COMPRISES ANY OF THE FOLLOWING: OBSTRUCTION DATA, HAZARD DATA, GROUND COVER DATA, TOPOGRAPHICAL DATA, ESTABLISHED TRANSPORTATION PATH DATA, AND VEGETATION DATA FOR AT LEAST PART OF THE WORK AREA.

-S208

IDENTIFY A PREFERENTIAL PATH PLAN WITH AN EFFICIENT ECONOMIC COST BETWEEN THE FORWARDER LOCATION AND THE MATERIAL LOCATION AND BETWEEN THE MATERIAL LOCATION AND A DROP-OFF DESTINATION BASED ON THE MATERIAL DATA, THE BACKGROUND DATA, AND COST FACTOR DATA. THE COST FACTOR DATA INCLUDES ONE OR MORE OF THE FOLLOWING: ESTIMATED TRAVEL TIME BETWEEN A STARTING POINT AND DESTINATION POINT OF A CANDIDATE PATH PLAN OR SEGMENT, EMPIRICAL TRAVEL TIME BETWEEN A STARTING POINT AND A DESTINATION POINT OF A CANDIDATE PATH PLAN OR SEGMENT, A TRAVEL DISTANCE BETWEEN A STARTING POINT AND A DESTINATION POINT OF A CANDIDATE PATH PLAN OR SEGMENT, AND A TRAVEL DISTANCE BETWEEN A MATERIAL LOCATION AND ONE OR MORE CORRESPONDING DROP-OFF LOCATIONS.

*—S211* 

PROVIDE COMMANDS TO TRUCK OR EXECUTE THE PATH PLAN TO AT LEAST ONE OF A STEERING SYSTEM, A THROTTLE SYSTEM, AND A BRAKING SYSTEM.